

SYSTRANS - Load, Scan and Restart Load Functions

This section contains information on:

- Load and Scan
 - Restart Load
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Load and Scan

Load

You use the Load function to load source code objects. The Load function performs the following:

- loads data from the work file into any system environment;
- if requested, converts the data from ASCII to EBCDIC or from EBCDIC to ASCII;
- gives you the option to load free rules into Predict.

Scan

You use the Scan function to scan for source code objects in Work File 1 without actually loading them.

When you invoke the Load or Scan function, you first have to specify General Options before you can select the objects to be loaded or scanned.

Below is information on:

- General Load/Scan Options
- Objects to be Loaded/Scanned
- Loading in Batch Mode under OS/390
- User Exits for Loading in Batch Mode
- Load Work File Specifications
- Natural Parameter Settings

General Load/Scan Options

 **To specify any of the following General Load or Scan Options**

- Enter a Y (Yes) or an N (No).

The following options are provided:

Option	Explanation
User-Defined Conversion Table	<p>If data conversion is required by your target environment: If you set this option and have specified your own conversion table in the program SULCONV, all data are converted using this conversion table. If you do not set this option, all data are converted using a conversion table that is internally defined.</p> <p>Load only: If no data conversion is required by your target environment: If you specify F (Force), a table is used that only replaces characters, which means that no actual data conversion takes place.</p> <p>See User-Defined Conversion Table below for more information on defining your own conversion table in the program SULCONV.</p>
Report	<p>Not applicable to the Scan. The Scan generates reports automatically.</p> <p>Displays a report listing the objects that were loaded.</p>
Translate Sources to Upper Case	<p>Not applicable to the Scan.</p> <p>Translates any source code to be loaded to upper case.</p>
Save Restart Information	<p>Not applicable to the Scan.</p> <p>Saves restart information while loading. This information can be used to resume load functions that terminated abnormally. See also Restart Load Function.</p>
Modify Library Names	<p>Not applicable to the Scan.</p> <p>Enables modification of library name(s) specified as To Library before the actual load operation begins.</p> <p>Enter a Y (Yes). After you have made all necessary specifications for the items to be loaded, a window is displayed in which you can specify a new library name.</p>
Use Entire Connection Work File	<p>Uploads or scans all data from Work File 7. When using this option, Entire Connection is required, and Work File 7 must have been defined as Entire Connection work file in your parameter file.</p>
Convert Data Area Sources	<p>Specifies whether to convert the data area sources read from the work file in old internal data area format to new internal data area format. For details, see Data Area Editor in the Natural Editors documentation.</p> <p>Valid values are:</p> <p>Y Converts data areas from old internal data area format to new internal data area format.</p> <p>N Does not convert data areas.</p>

User-Defined Conversion Table

In the library SYSTRANS, there is the program SULCONV with which you can define your own conversion tables. In this program, you can replace any character to match your hardware environment.

Example:

The following steps are an example of how the EBCDIC character **a** can be converted to the ASCII character **A**:

1. Find out the decimal representation of the EBCDIC character **a**. In this case, the decimal representation of the EBCDIC character **a** is 129.
2. Find out the decimal representation of the ASCII character **A**. In this case, the decimal representation of the ASCII character **A** is 65.
3. Replace the value located at the 129th position of the table BEBCA with 65.

Objects to be Loaded/Scanned

Once you have specified the General Load/Scan Options, a menu is displayed on which you select one of the below object types to be loaded or scanned.

- Natural Objects
- Maps
- DDMs
- Adabas FDTs
- Error Message Texts
- Command Processors
- Library
- All Objects

Loading/Scanning Natural Objects

If you select Natural Objects as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
S/C Type	For future use; nothing can be specified at the moment.
Library	<p>The library to be loaded or scanned. If you specify no library, all libraries are loaded or scanned. You can specify a group of libraries by using asterisk notation (*). You can only specify a library that has been specified as target library with the Unload function. If no target library has been specified, the name of the library specified as From Library is used.</p> <p>If the Modify Library Names option (see General Load/Scan Options) is set, you can enter a new library name before the actual load operation begins.</p>
Object Name	<p>The name of the object to be loaded or scanned.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Object Type	The type(s) of object(s) to be loaded or scanned.
Replace	<p>Not applicable to the Scan.</p> <p>If you specify Y (Yes) and a source with the same name as the one you are loading already exists in the target environment, the target source is replaced.</p>

Loading/Scanning Maps

If you select Maps as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
S/C Type	For future use; nothing can be specified at the moment.
Library	<p>The library to be loaded or scanned. If you specify no library, all libraries are loaded or scanned. You can specify a group of libraries by using asterisk notation (*). You can only specify a library that has been specified as target library with the Unload function. If no target library has been specified, the name of the library specified as From Library is used.</p> <p>If the Modify Library Names option (see General Load/Scan Options) is set, you can enter a new library name before the actual load operation begins.</p>
Map Name	<p>The name of the map to be loaded or scanned for.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Load Free Rules to Predict	<p>Not applicable to the Scan.</p> <p>If you specify Y (Yes), all free rules on the work file are loaded to Predict.</p>
Replace	<p>Not applicable to the Scan.</p> <p>If you specify Y (Yes) and a map with the same name as the one you are loading already exists in the target environment, the target map is replaced.</p>

Loading/Scanning DDMs

If you select DDMs as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
DDM Name	<p>The name of the DDM to be loaded or scanned for.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Library	<p>The name of the library to be loaded or scanned.</p> <p>Only to be used if your target environment is UNIX or Windows.</p> <p>You can only specify a library that has been specified as target library with the Unload function. If no library is specified, the following applies to the load procedure:</p> <ul style="list-style-type: none"> • If the DDMs are unloaded from a mainframe environment, all DDMs will be automatically loaded into the library SYSTEM. • If the DDMs are unloaded from any other environment, the name of the library specified as From Library will be used. <p>Scan: If you specify no library, all DDMs are scanned.</p> <p>If the Modify Library Names option (see General Load/Scan Options) is set, you can enter a new library name before the actual load operation begins.</p>
Replace	<p>Not applicable to the Scan.</p> <p>If you specify Y (Yes) and a DDM with the same name as the one you are loading already exists in the target environment, the target DDM is replaced.</p>

Loading/Scanning Adabas FDTs

If you select Adabas FDTs as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
DBID	The database ID of the Adabas FDT you want to load or scan.
FNR	The file number of the Adabas FDT you want to load or scan.
Replace	Not applicable to the Scan. If you specify Y (Yes) and an FDT with the same DBID and FNR as the one you are loading already exists in the target environment, the target FDT is replaced.

If DBID and FNR are left blank or set to **0**, all FDTs on the work file are loaded.

Loading/Scanning Error Message Texts

If you select Error Message Texts as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
Message Type	The type of error messages to be loaded or scanned for: U User-defined error messages N Natural error messages * All error messages
Library	The library to be loaded or scanned. If you specify no library, all libraries are loaded or scanned. You can specify a group of libraries by using asterisk notation (*). You can only specify a library that has been specified as target library with the Unload function. If no target library has been specified, the name of the library specified as From Library is used. If the Modify Library Names option (see General Load/Scan Options) is set, you can enter a new library name before the actual load operation begins.
Message Number	The range of error message numbers to be loaded or scanned.
Language Code	The language code of the error messages to be loaded or scanned; for valid codes, see the *LANGUAGE system variable in the Natural System Variables documentation.
Replace	Not applicable to the Scan. If you specify Y (Yes) and a message with the same number as the one you are loading already exists in the target environment, the target message is replaced.

Note:

For Natural error messages, you need not specify a library, because they are always loaded into the FNAT system file or the error messages subdirectory.

Loading/Scanning Command Processors

If you select Command Processors as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
Library	<p>The library to be loaded or scanned. If you specify no library, all libraries are loaded or scanned. You can specify a group of libraries by using asterisk notation (*). You can only specify a library that has been specified as target library with the Unload function. If no target library has been specified, the name of the library specified as From Library is used.</p> <p>If the Modify Library Names option (see General Load/Scan Options) is set, you can enter a new library name before the actual load operation begins.</p>
Object Name	<p>The name of the command processor to be loaded or scanned.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Replace	<p>Not applicable to the Scan.</p> <p>If you specify Y (Yes) and a source with the same name as the one you are loading already exists in the target environment, the target source is replaced.</p>

Loading/Scanning Libraries

If you select Library as the type of objects to be loaded or scanned, you can make the following specifications:

Field	Explanation
Library	<p>The library to be loaded or scanned. If you specify no library, all libraries are loaded or scanned. You can specify a group of libraries by using asterisk notation (*). You can only specify a library that has been specified as target library with the Unload function. If no target library has been specified, the name of the library specified as From Library is used.</p> <p>If the Modify Library Names option (see General Load/Scan Options) is set, you can enter a new library name before the actual load operation begins.</p>
Load/Scan Natural Objects	<p>Indicates whether the Natural objects unloaded for the specified library are to be loaded or scanned.</p> <p>Enter a Y (Yes) to load Natural objects.</p>
Range of Natural Objects	<p>The name of the object to be loaded or scanned.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Types of Natural Objects	The type(s) of the object(s) to be loaded or scanned.
Load/Scan Maps	<p>Indicates whether the maps unloaded for the specified library are to be loaded or scanned.</p> <p>Enter a Y (Yes) to load maps.</p>
Range of Maps	<p>The name of the map to be loaded or scanned.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Load/Scan DDMs	<p>Indicates whether DDMs are to be loaded or scanned.</p> <p>Enter a Y (Yes) to load DDMs.</p>
Range of DDMs	<p>The name of the DDM to be loaded or scanned.</p> <p>See also Name and Range Specification in the section Introduction.</p>
Load/Scan Error Messages	<p>Indicates whether the error message texts unloaded for the specified library are to be loaded or scanned.</p> <p>Enter a Y (Yes) to load or scan error messages.</p>
Message Number	The range of error message numbers to be loaded or scanned.
Language Code	The language code of the error messages to be loaded or scanned. For valid codes, see the system variable *LANGUAGE in the Natural System Variables documentation.
Load/Scan Command Processors	<p>Indicates whether the Command Processors unloaded for the specified library are to be loaded or scanned.</p> <p>Enter a Y (Yes) to load or scan for DDMs.</p>
Range of Command Processors	The name of the command processor to be loaded or scanned. See also Name and Range Specification in the section Introduction.
Replace	<p>Not applicable to the Scan.</p> <p>If you specify Y (Yes) and a source with the same name as the one you are loading already exists in the target environment, the target source is replaced.</p>

Loading/Scanning All Objects

Scan

If you select All Objects (that is, if you want to scan for all objects on the work file), no further parameters need to be specified.

Load

If you select All Objects for loading (that is, if you want to load all objects contained on the work file), you can specify the following:

Field	Explanation
Replace	If you specify Y (Yes) and an object with the same name as the one you are loading already exists in the target environment, the target object is replaced.

All objects on the work file are loaded into the target libraries as specified with the Unload function, unless you have set the Modify Library Names (see General Load/Scan Options) option. If so, a second window is displayed, in which you can enter a new library name.

For more information on defining work files, see the section Load Work File Specifications.

Loading in Batch Mode under OS/390

The following example shows a JCL procedure which you can use to load your programs and maps:

```
//*****
//*
//*      LOAD NATURAL SOURCES
//*
//*****
//TRANSFER  JOB CLASS=G,MSGCLASS=X
//NATBAT    EXEC PGM=NATBAT,REGION=3000K,
//          PARM='IM=D,MADIO=0,MT=0'
//STEPLIB   DD DISP=SHR,DSN=NATURAL.LOAD
//          DD DISP=SHR,DSN=ADABAS.LOAD
//CMPRINT   DD SYSOUT=X
//DDCARD    DD *
ADARUN PROG=USER, DB=010,MODE=MULTI,SVC=249
//CMWKF01   DD DISP=SHR,DSN=WORK.FILE1
//CMSYNIN   DD *
SYSTRANS
L
N,Y,N,N,Y,N
*
N
NEWLIBS
FIN
/*
```

Note:

As shown in the above example, do not specify the S/C Type field when loading Natural objects, because the S/C Type field is an output field only.

User Exits for Loading in Batch Mode

Two user exits with which you can handle errors when loading in batch mode are provided in source form under the names SLD-S-X1 and SLD-S-X2. To be invoked, both must be available as cataloged objects under the names SLDEXIT1 and SLDEXIT2 in the library SYSTRANS.

SLDEXIT1 is invoked if an error occurs that leads to an abnormal termination. It allows you to define a return code.

SLDEXIT2 is invoked in the case of error messages or warnings. If it returns a non-zero return code, the load operation is abnormally terminated; otherwise processing is continued.

Load Work File Specifications

The following work files are used for loading:

Work File 1	The file from which the data are loaded.
Work File 4	The file into which the load report is written when using the Direct Transfer Functions.

Use the following JCL parameter values to specify the work file:

Parameter	Value
LRECL	96
RECFM	VB
BLKSIZE	6240

Natural Parameter Settings

To be able to use the Load function, set the following Natural parameters:

Parameter	Value
MT	0
MADIO	0
MAXCL	0

Restart Load

You use the Restart Transfer Load function to resume a load operation that has been terminated abnormally.

To be able to use this function, the load option Save Restart Information must have been set (see General Load/Scan Options). If so, the necessary restart information (that is, the work file header and all relevant load parameters) is saved in a Natural text object called LOAD-LOG.

When you invoke the Restart Transfer Load function, you first have to specify the following general restart options:

Use Entire Connection Work File	Enter a Y (Yes) if the data to be loaded are to be uploaded from Work File 7. When using this option, Entire Connection is required, and Work File 7 must have been defined as Entire Connection work file in your parameter file.
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The Restart Load function checks whether the work file header stored as part of the restart information corresponds to that of the work file to be (re)loaded.

- If so, the Restart Load function resumes the previously terminated load operation.
- If not, the Restart Load function cannot be performed and a corresponding message is displayed. The same applies if you select the Restart Load function without the Save Restart Information option set to Y (Yes).